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SEARCH REQUEST FORM

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Serial Number: ~~09/192,167~~ Results Format Preferred (circle): PAPER DISK E-MAIL

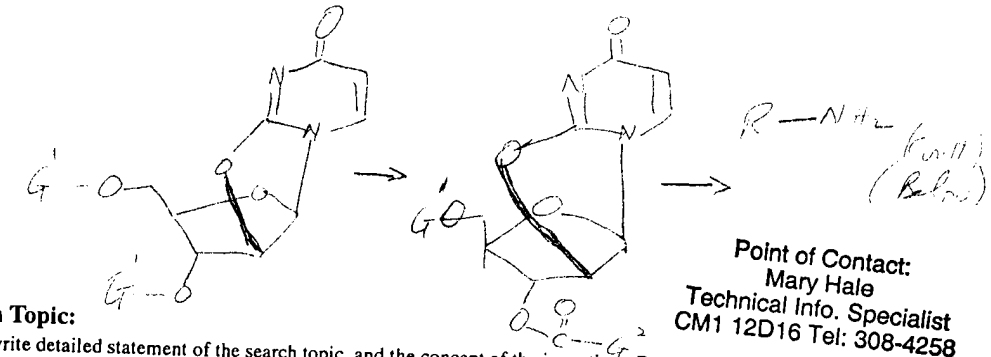
Title of Invention See copy of claims attached And particularly copies of Figures attached

Inventors (please provide full names): " "

Earliest Priority Date: 11/13/98

Keywords (include any known synonyms registry numbers, explanation of initialisms):

Please search for the following process steps



Point of Contact:
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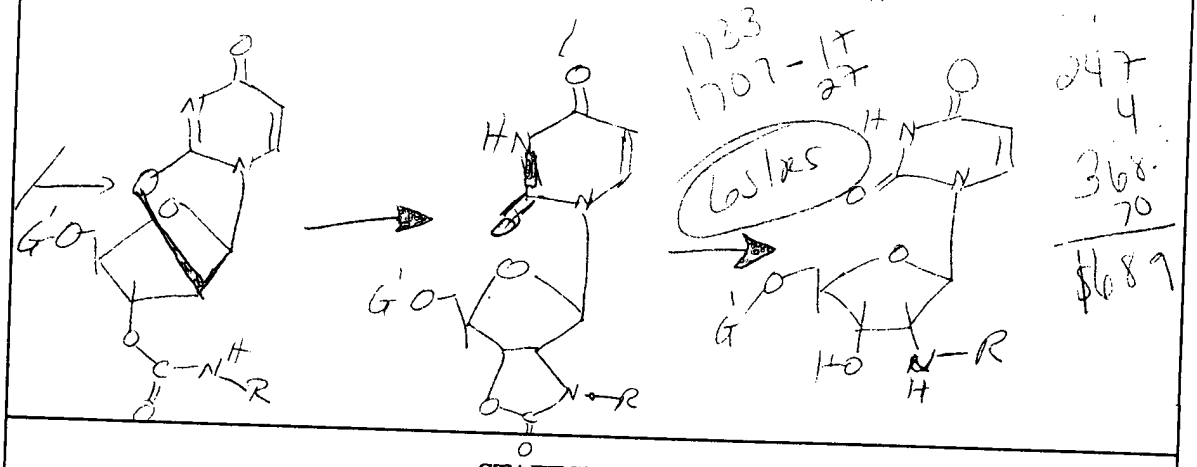
Search Topic:

Please write detailed statement of the search topic, and the concept of the invention. Describe as specifically as possible the subject matter to be searched. Define any terms that may have a special meaning. Give examples of relevant citations, authors, etc., if known. You may include a copy of the abstract and the broadcast or most relevant claim(s).



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PTO-1590 (2-99)

CLAIMS

We claim:

1. A method for making a modified nucleoside comprising a covalently attached signalling moiety or signalling moiety precursor, said method comprising:

a) adding an anhydro-nucleoside and a signalling moiety or signalling moiety precursor comprising a primary amine in the presence of an activation agent to form an activated anhydro-nucleoside;

b) treating said activated anhydro-nucleoside with a cyclization agent to form a cyclized intermediate; and

c) treating said cyclized intermediate with a base to form said modified nucleoside.

2. A method according to claim 1 further comprising adding a phosphoramidite group to said modified nucleoside.

3. A method according to claim 2 further comprising incorporating said phosphoramidite modified nucleoside into a growing nucleic acid.

4. A method according to claim 1 wherein said nucleoside is a naturally occuring nucleoside.

5. A method according to claim 1 wherein said nucleoside is a nucleoside analog.

6. A method according to claim 1 wherein said activating agent is carbonydimidazole.

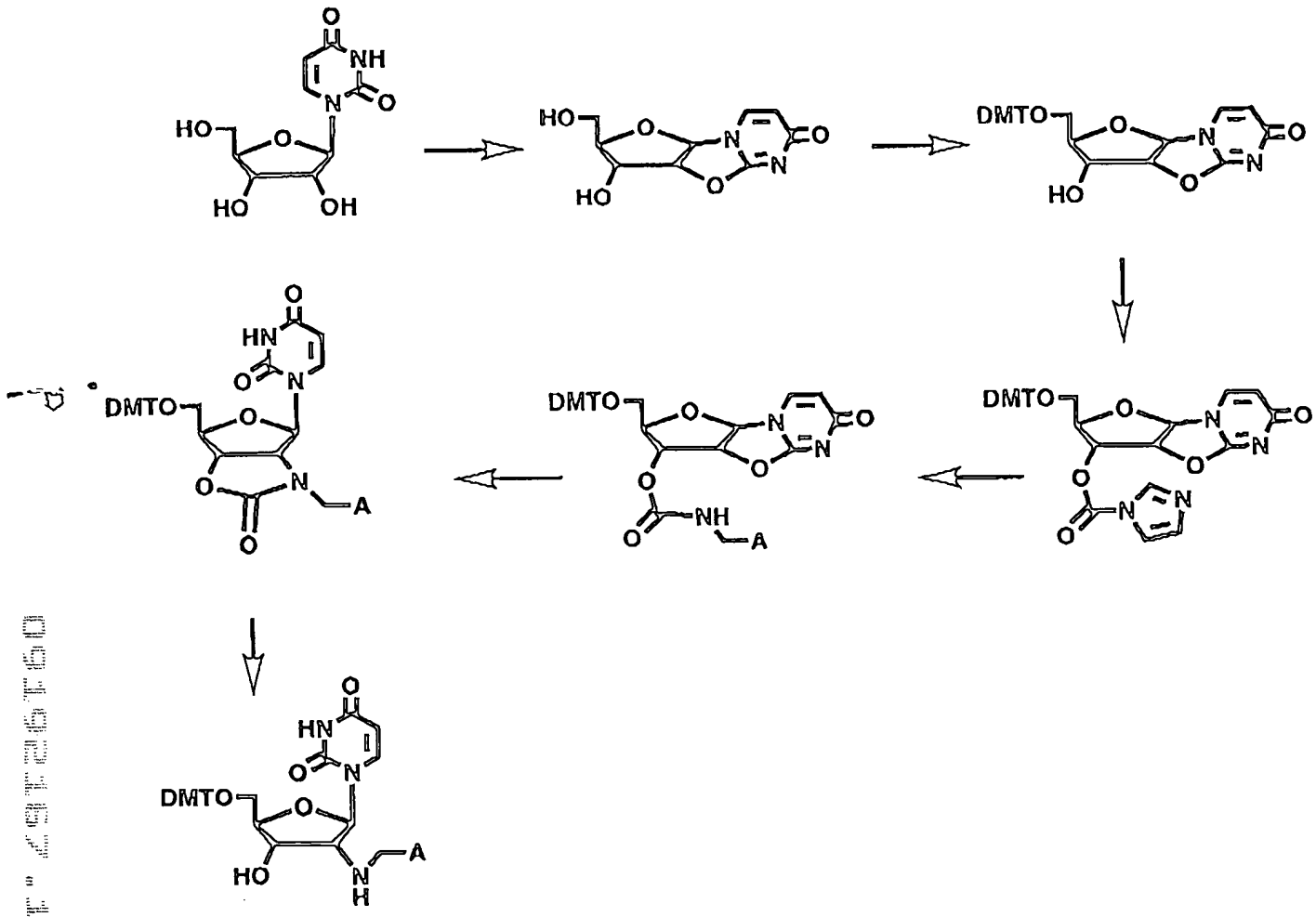
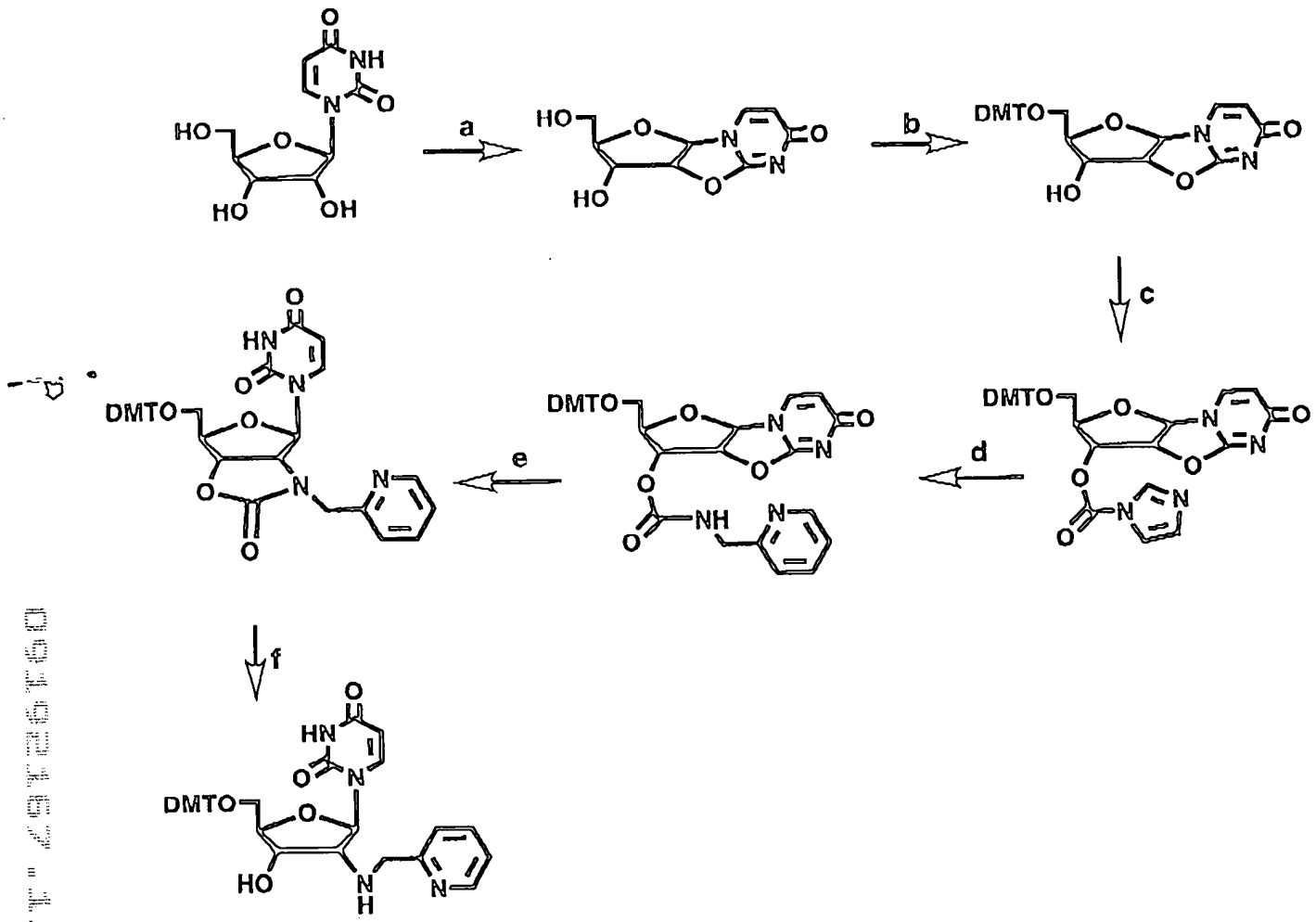


Fig 1



a) Diphenylcarbonate, DMF,110° C, 8 hours; b) DMTCl, cat. DMAP, CH_2Cl_2, 25°C, 24 hrs.; c) 1,1'-Carbonyllmidazole, CH_2Cl_2, 24 hrs.; d) 2-aminomethylpyridine, DIEA, CH_2Cl_2, 24 hrs.; e) DBU, THF, 48 hrs. 25°C; f) NaOH / MeOH / H_2O, 24 hr, 25°C.

Fig (2)

Synthesis of A Metallated Phosphoramidate

Fig 3